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IMAGES IN CARDIOLOGY

Intramural Aortic Hematoma

Definitive Diagnosis Combining Computed Tomography and Magnetic Resonance Imaging

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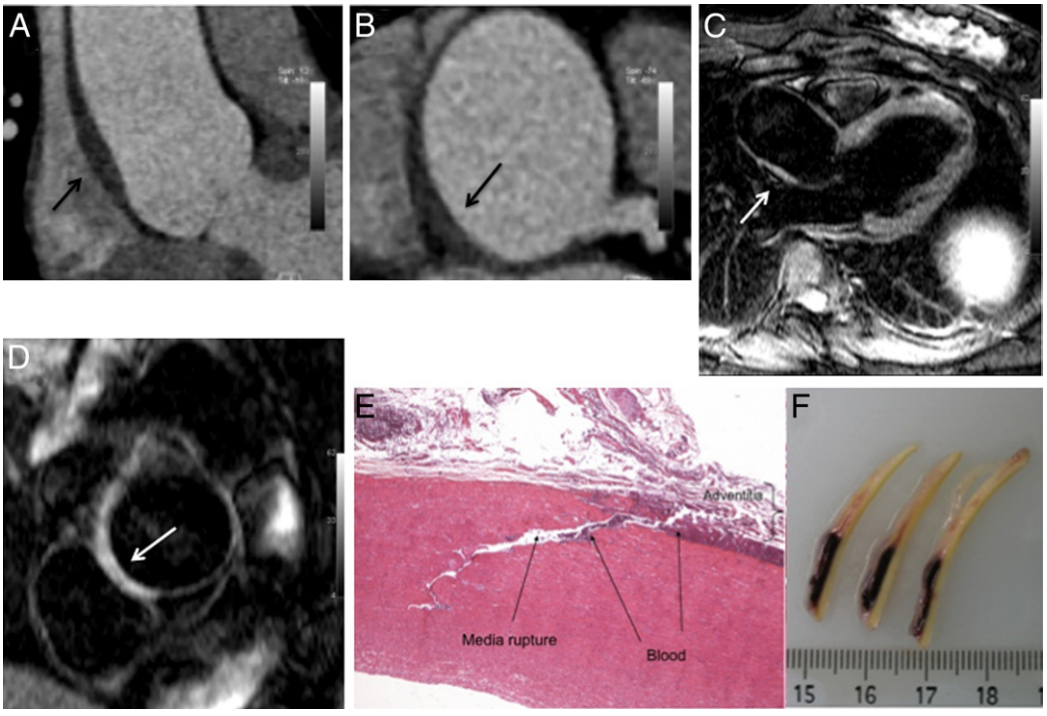

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A 45-year-old woman was admitted for severe chest pain associated with sinus tachycardia. Echocardiography showed normal left ventricular function, without wall motion abnormalities, a mild aortic regurgitation, and ascending aorta dilation. Dual-source-system computed tomography showed a moderate aneurysm of the ascending aorta (46 mm) and bicuspid aortic valve. A 6-mm smooth-shaped wall thickening on the noncoronary sinus was detected **(A, B)**, suggesting intramural aortic hematoma, without evidence of an intimal tear. Magnetic resonance imaging was performed, and the thickened aortic wall T2 dark blood hypersignal confirmed the presence of fluid within the aortic wall **(C, D)**. The patient underwent replacement of the ascending aorta and noncoronary sinus, with aortic valve sparing. Histologic examination revealed an intact intimal layer and a slender, cleftlike lesion within the outer part of the tunica media in continuous association in larger adventitial hematoma **(E, F)**.